

REMARKS

Interview Summary

Applicants thank the Examiner for the courtesy of participating in an interview on December 16, 2003. During the interview, the prior art and claims of record were discussed. The Examiner indicated that the claims as amended by Applicants in the Amendment and Reply dated September 16, 2003 are allowable over the art of record. However, the Examiner indicated that he would like to update the search results before allowing the claims.

Introduction

Applicants thank the Examiner for the detailed Office Action dated June 17, 2003. Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 1-5, 11-22, and 41-45 are requested to be cancelled.

Claims 6, 23, 27, 35-38, and 40 are currently being amended.

Claims 46-47 are being added.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 6-10, 23-28, 35-40, and 46-47 are now pending in this application.

Applicants initially note that Claims 35 and 36 have been amended in a different manner than was presented in the Amendment and Reply dated September 16, 2003. The remainder of the Claims, however, are the same as the Claims presented in the September 16, 2003 Amendment and Reply.

Claim Rejections – 35 U.S.C. § 102

On page 2 of the Office Action, Claims 1, 2, 4-10, 13-18, 21-27, 35-39, 41-45 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,508,689 (Rado et al.). Applicants respectfully traverse the rejection. Rado et al. does not identically disclose Applicants' claimed invention.

Claims 1, 2, 4, 5, 13-18, 21, 22, and 41-45 are cancelled. Pending Claims 6, 23, 27, 35, 36, and 37, are in independent form. Claims 7-10 depend from independent Claim 6. Claims 24-26 depend from independent Claim 23. Claims 38 and 39 depend from independent Claim 37.

Independent Claims 6, 23, and 37

Independent Claims 6, 23, and 37, as amended, are not identically disclosed in Rado et al. For example, independent Claim 6 and 23 recite a military and multipurpose modular vehicle including, among other elements, "a plurality of microprocessor-based interface modules" that are "coupled to the plurality of input devices," "the plurality of interface modules including" "a first microprocessor-based interface module," which has "a first data memory that stores input status information for **all** of the plurality of input devices," "a second microprocessor-based interface module," which has "a second data memory that stores input status information for **all** of the plurality of input devices," and "a plurality of additional microprocessor-based interface modules," which is not identically disclosed in Rado et al. Independent Claim 37 recites "a control method for an equipment service vehicle" including, among other elements, "a plurality of microprocessor-based interface modules" that are "connected to respective ones of the plurality of input and output devices," and wherein "each of the plurality of interface modules stores I/O status information for **all** of the plurality of input devices and **all** of the plurality of output devices, including the input devices and output devices that are connected to other interface modules," which is not identically disclosed in Rado et al.

The Examiner provided the following reasons for rejecting Claims reciting storing information pertaining to all of the input and/or output devices. In responding to the

Applicants' previous Reply and Amendment, the Examiner stated:

The argument that status information is stored in the interface modules for substantially all the input devices is not disclosed by the cited prior art is also not convincing. Rado et al. discloses memory in the modules on lines 5-20, on column 8; and states that each module can be handling a myriad of functions on lines 20-23, on column 8. If these modules are handling a myriad of functions they must have access and must have stored a myriad, or a substantial amount, of sensor information.

(Office Action dated June 17, 2003 at 7.) The portion of Rado et al. relied on by the Examiner states:

A dual-access buffer, such as dual-access RAM 82, accommodates the transfer of information between the communication network and a central processing unit (CPU) 84 and a memory, such as ROM 86. Preferably, dual-access RAM 82, CPU 84, and ROM 86 are implemented on a single integrated circuit chip.

In operation, controller module 14 receives input information from a number of arbitrary input sources via vehicle trunkline 20 (shown in FIG. 1) which includes a serial communications line. Controller module 14 translates this information into a digital value which may be stored within dual-access RAM 82 or retransmitted to another controller module. CPU 84 uses the information placed in dual-access RAM 82 in executing a predetermined set of instructions stored in ROM 86 to generate appropriate control commands. The control commands are then stored in dual-access RAM 82 for transmission to the appropriate interface module over one or more communication networks. The information received, manipulated, and generated by controller module 14 may be used for control functions, diagnostic functions, reliability management functions, or to manage parallel processing, among myriad other functions.

(Col. 8, lines 5-23.)

From the Examiner's statement quoted above, the Examiner appears to recognize that Rado et al. does not explicitly disclose the recited limitations and, instead, the Examiner takes

the position that the limitations are inherently disclosed by Rado et al. The standard for whether something is inherent in a disclosure is explained in the MPEP as follows. “To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is **necessarily** present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.’” MPEP § 2112 at 2100-52 (8th Ed. Rev. 1) (emphasis added).

Applicants respectfully submit that the limitations recited in Claims 6, 23, and 27 are not necessarily present in Rado et al. for the following reasons: (1) the portion of Rado et al. cited by the Examiner refers to the controller modules in the aggregate and not to a specific controller module and (2) even if one controller module performs all of the various functions, it is not necessary for the module to store information from all of the other input and/or output devices, as recited in the claims, since the module only needs to store enough information to control the particular actuators it is responsible for. Accordingly, since the limitations of Claims 6, 23, and 27 are not explicitly or inherently present in Rado et al. Applicants respectfully request that the rejection of Claims 6, 23, and 37 be withdrawn.

Applicants have amended Claims 6, 23, and 27 to remove the word “substantially.” By so doing, Applicants note that Claims 6, 23, and 27 are met by systems having the minimum number of interface modules, devices, and status information to literally be within the claims (e.g., a plurality of interface modules = 2) and should not be construed to require the interface modules to store status information for every device coupled to the system.

Independent Claim 27

Applicants respectfully submit that Rado et al. does not identically disclose the combination of limitations recited in independent Claim 27 as amended. Independent Claim 27, as amended, recites “a vehicle” including, among other elements, “a plurality of microprocessor-based interface modules” wherein “each of the plurality of interface modules are coupled to a respective local subset of the plurality of input devices and to respective local subset of the plurality of output devices,” and wherein “each of the plurality of interface modules collects input status information from the respective local subset of the plurality of

input devices and **broadcasts** the input status information over the communication network to each of the remaining ones of the plurality of interface modules **at least once during a predetermined amount of time**, each of the remaining ones of the plurality of interface modules receiving the input status information and locally storing the input status information,” which is not identically disclosed in Rado et al.

The Examiner provided the following reasons for rejecting Claims reciting “broadcasting” information over the communication network:

[t]he argument that status information being broadcast is not disclosed in Rado et al. is also not convincing. The argument seems to rely on a definition of transmitting from one point to many, however, the applicant has also used “broadcasting” to describe the transmission of desired output state [sic] to the output device. This is a point to point transmission, hence broadcasting, for the purposes of this invention has been defined by the applicant as to include point to point transmission.

(Office Action dated June 17, 2003 at 7.) Applicants respectfully note that independent Claim 27 recites that “each of the plurality of interface modules” “broadcasts the input status information over the communication network to each of the remaining ones of the plurality of interface modules.” As implied by the Examiner’s statement quoted above, Rado et al. does not identically disclose “broadcasts” from “each of the plurality of interface modules” to “each of the remaining ones of the plurality of interface modules” as recited in Claim 27. Rather, Rado et al. discloses a single transmitter/single receiver configuration in which status information is transmitted or shared between the various modules on as needed basis as opposed to being broadcast to multiple modules. (See col. 6, lines 12-15; col. 7, lines 58-65; col. 8, lines 17-19.) Applicants also point out that there is no mention in Rado et al. of broadcasting information at least once during a predetermined amount of time, which is also recited in independent Claim 27.

In light of these reasons, Applicants respectfully request that the rejection of Claim 27 be withdrawn.

Independent Claims 35 and 36

Applicants respectfully submit that Rado et al. does not identically disclose the combination of limitations recited in independent Claims 35 and 36, as amended. For example, independent Claim 35, as amended, recites “[a] multipurpose modular vehicle” comprising, among other elements, “a chassis and a variant module,” wherein “the variant module being removable and replaceable with other variant modules having other mechanical drive devices to provide the vehicle with other types of overall functionality.” Claim 36 recites “[a] multipurpose modular vehicle” comprising, among other elements, “a variant module,” with “the variant module being removable and replaceable with other variant modules to substantially alter the overall functionality of the vehicle.”

The Examiner provided the following reasons for rejecting Claims reciting “a variant module:” In responding to the Applicants’ previous Reply and Amendment, the Examiner stated:

[t]he argument that a variant module is not disclosed by the prior art [sic]. This argument is not convincing since a radio with a CD player is a variant module that includes a mechanical device capable of imparting motion to a solid or liquid that is not part of the vehicle to provide a first type of functionality, and a second variant module can be a radio with a tape player as a second mechanical device.

(Office Action dated June 17, 2003 at 8.)

Applicants respectfully submit that Rado et al. does not identically disclose the invention as recited in independent Claims 35 and 36. A CD player or radio with a tape player does not “provide the vehicle with other types of overall functionality” or “substantially alter the overall functionality of the vehicle” as required by independent Claims 35 and 36, respectively. Accordingly, the above recited limitations in combination with the other limitations recited in Claims 35 and 36, respectively, are not identically disclosed by swapping a CD player with a tape player in a vehicle.

Applicants respectfully request that the rejection of Claims 35 and 36 be withdrawn.

Claim Rejections – 35 U.S.C. § 103

Claims 3, 11, 12, 19, and 20, which were rejected under 35 U.S.C. § 103 are cancelled.

On page 6 of the Office Action, Claim 28 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Rado et al. in view of U.S. Patent No. 6,223,104 (Kamen et al.). Claim 28 depends from independent Claim 27. Applicants respectfully submit that Kamen et al. does not overcome the deficiencies of Rado et al. as explained above in the discussion relevant to independent Claim 27. Applicants respectfully submit that Claim 28 is allowable for at least the same reason that independent Claim 27. Accordingly, Applicants request favorable reconsideration of the rejection of Claim 28.

New Claims

Applicants also note that new independent Claim 46 and dependent Claim 47, which depends from independent Claim 47, are also allowable. New independent Claim 47 recites “[a] vehicle” comprising, among other elements, “a first microprocessor-based interface module,” “a second microprocessor-based interface module,” and “a plurality of additional microprocessor-based interface modules,” wherein “the first interface module, second interface module, and plurality of additional interface modules each comprises a respective data memory that stores the input status information for **all** of the first plurality of input devices, the second plurality of input devices, and the additional pluralities of input devices,” which is not inherently disclosed (i.e., necessarily present) in Rado et al.

Accordingly, Applicants believe that new Claims 46-47 are in condition for allowance.

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Applicants respectfully submit that each and every outstanding objection and rejection has been overcome, and the present Application is in a condition for allowance. Accordingly, favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 06-1447. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 06-1447.

Respectfully submitted,

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